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## ABSTRACT

Graduate students in counselor education programs are required to take a minimal number of research courses during their tenure as students. The learning experiences from courses or from working on an individual basis with or without the guidance of a research mentor can vary in quality and intensity. The opportunity for graduate students to participate on a research team and work collaboratively on research projects can be a positive professional and personal growth opportunity. This article discusses the development of such a program called the Diverse Research Team at the University of Iowa. Caucasians, African Americans, Latinos, and Asian international students were included. The objectives of the Diverse Research Team (DRT) were to: promote and instill the basic knowledge and skills about research, create a unique team experience, and contribute to the personal development and professional identity of graduate students. Although the benefits of the program were far reaching, some limitations to providing a research team experience were noted, especially those concerning the funding of projects and travel expenses for presentations. (Contains 14 references.) (JDM)

Running head: RESEARCH TEAMING EXPERIENCE

Enhancing Research Training for Counseling Students:  
A Research Team Approach

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## Abstract

Graduate students in counselor education programs are required to take a minimal number of research courses during their tenure as students. However, the learning experiences from regular classes or from working on an individual basis with or without the guidance of a research mentor can be very dispersed. The opportunity for graduate students to participate on a research team and work on research projects collaboratively is a professional and personal growth opportunity. This article will discuss the development of a research team of counseling students at the University of Iowa, as well as a preliminary evaluation of the thematic outcomes of this research training method. This can provide implications for enhancing research training for counseling students.

The purpose of this paper is to introduce the process of creating and implementing a research team and sharing the learning experiences of team members. The research team from a large Mid-western university consists of members from four major racial groups: Caucasian, African American, Latino, and Asian international students. Their native languages are English, Spanish, Mandarin, and Korean. With a masters or bachelor's degree, all members are graduate students in Counselor Education program, Rehabilitation Counselor Education program, or School Counseling program. Before participating in the research team, team members had served as the high school teacher, faculty or counselor at college setting, or consultant at business setting. Overall, this research team comprises of members with variously ethnic, educational, vocational, and research backgrounds in different, but relative disciplines.

There are some rules guiding the research team's operation. First of all, as a relatively closed group, the research team was originally founded by a research mentor and five members with similar research interests. Whether to accept a new member will be decided based on the contribution the person can make to the team and consensus of all previous members. Second, every member can bring up new research topics and put them under team discussions. Once the research idea or conference project was approved, all members will work on them cooperatively. Third, the ownership of an original research idea and the extent of contribution to this project will be used to decide authorship. By following these rules, the research team has proposed research and conference projects, and worked on them effectively.

### Rationale

For many years, researchers from helping professions have been concerned about the issues of how the educational conditions would enhance the graduate students investment in research (Gelso, 1997; Phillips & Rusell, 1994). The conclusion from these studies supports the notion that aspects such as: early involvement in research (Royalty, Gelso, Mallinckrodt, & Garrett, 1986), actual research projects (Royalty & Reising, 1986), appropriate modeling by faculty (Galassi, Brooks, Stoltz, & Trexler, 1986), positive faculty-student relationship (Mallinckrodt, Gelso, & Royalty, 1990), and emphasizing less traditional approaches to research (Galassi et al., 1986), have a positive impact on a student's attitudes, skills, and productivity in research.

Betz (1986) argues that calls for modifications in research training represent efforts to increase student's self-efficacy in the areas of research. According to Bandura (1977), self-efficacy is a cognitive theory of behavior acquisition, maintenance, and change that suggests that behavior is function of self-efficacy expectations. Bandura suggests that if people believe they have the ability to successfully complete a given behavior, then they are more likely to engage in that behavior. When we try to observe the relationship between the research training and students' self-efficacy, Bandura (1977) suggested that not only do improvements in research training environment affect actual research competencies, but they also serve to strengthen self-efficacy expectations.

Supporting Bandura's statements, Phillips and Rusell (1994) suggest that consistent with self-efficacy theory, early and active involvement in research is equivalent to direct performance accomplishment, the most important factor in determining student's self-efficacy expectations. For that reason, if research self-efficacy proves to be important in

understanding the connections between research productivity and research training environment, then the graduate programs would be better able to design research environments to have positive and significant impact on students' productivity.

Developing the concept of the research-team approach would be an exceptional strategy to start, because often this initiative helps the graduate students later in their academic and professional careers (Miller, 1979; Stacks & Chalfa, 1981; Steward, Breland, Neil, & Miller (1999). Also, the concept of faculty-led research teams is one response to the long-standing recommendations in the literature for training programs providing graduate students with experiences, beyond the textbook, that result in research proficiency (Gelso, Mallinckrodt, & Judge, 1996; Kahn & Scott, 1997).

For those reasons, we decided to create a DIVERSE Research Team at the University of Iowa. The objectives of the Diverse Research Team are the following:

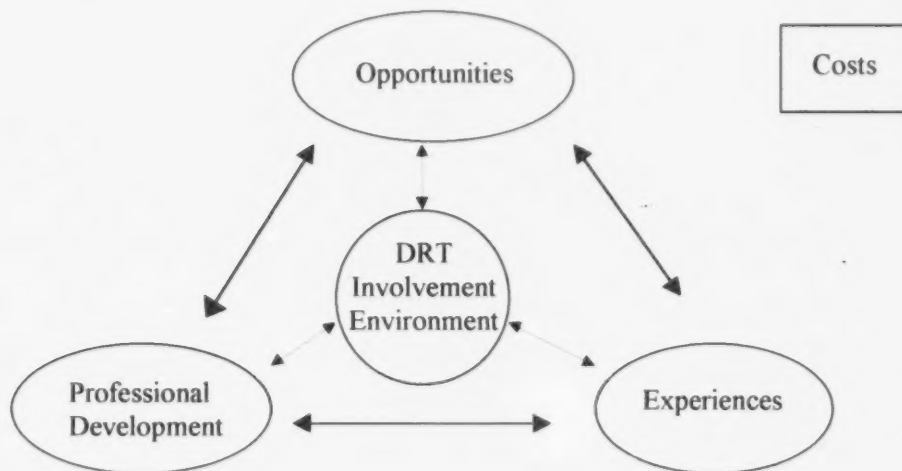
- Promote and instill in the graduate student member basic knowledge, skills, and attitudes about the research process using a collaborative environment.
- Create a unique team experience in which the graduate student members learn how to use research tools to contribute to the body of knowledge.
- Contribute to personal development and professional identity of graduate student members who have committed to the research process in academia.

#### Qualitative Data Analysis

Members devised five questions to explore how this research team experience affected their personal and professional development and how these experiences helped enhance research self-efficacy. Each member answered five questions individually based on his/her own experiences and opinion. The following are the questions:

1. How has the research teaming experience contributed to your professional development?
2. How has the research teaming experience affected your personal growth?
3. Compare and contrast regular classroom experience to research teaming experience?
4. How is your research self-efficacy in relation with attitude, ability, confidence, and comfort-level, as a result of RTE?
5. What have been cost and benefits of involvement in research team?

After that, members examined repeatedly emerging themes across the answers of six members. These themes are professional/graduate experiences; gaining knowledge/skills; research team environment; opportunities; professional development; and cost & benefit. Based on these themes, members developed a dynamic conceptual diagram illustrating how all these themes work together.



Key components of our research team experience are opportunities, professional development, personal/professional experiences, DRT involvement, and cost.

The DRT involvement is in the middle of the diagram, and there are three major components around it. DRT involvement is like fertile soil from which opportunities, professional development, and various personal/professional experiences are cultivated. As the two-way arrows among components indicate, the components in this diagram are in two-way, reciprocal relationships. For example, more members involved with the research team means members can have more growth experiences. These experiences lead to more opportunities. These accumulated opportunities enhance members' professional development. All these positive outcomes motivate members to be more actively involved with the research team. Of course, there is a component of cost that members have to pay. Examples include time, commitment, extra work, or whatever. However, members answered that the benefits they gain from the involvement with the research team far surpass the costs. Components of the diagram are related to each other very closely, and they are in reciprocal relationships. Accordingly, as these mutual interactions are accumulated over time, members experience qualitative development both as a team and an individual. There are developmental stages in the research team as a group; and, at the same time, there is individual personal/ professional growth. The conceptual diagram is not only a two-dimensional dynamic, but also three-dimensional, like a spiral.

#### Personal Experience

Five themes emerged within the personal experience category. These themes were 1) Overcoming the fear of research; 2) Increased enthusiasm for research; 3) Increase feelings of self worth and satisfaction; 4) Heightened awareness or sensitivity to research; and 5) A strong sense of connectedness. Each theme is described with supporting qualitative evidence in the following paragraphs.

##### Overcoming the fear of research.

The research team participants expressed a decrease in their fear of research through various phrases such as less daunting, less anxious, more comfortable, and lessened fears. These comments become more personal for the reader when the

participants' own words are used. One of the participants phrased it this way, "After participating in the DRT [research team] my attitudes toward the research process became better. Now I can participate in the group dynamic without any fear." (1.4) Another team member reported, "My fears regarding research (i.e. statistics, methodology, design, etc.) have lessened through participation on the team" (2.4). Finally, one participant equated the reduction of fear to an increase in specific research tasks. He stated, "It is much easier to read journals, talk with colleagues about research, and become involved in the process when you're not afraid of it" (3.4).

#### Increase enthusiasm for research.

This thematic area is best illustrated by a team participant's metaphor: "If I have a broken car; I can read books about its history and how it works, talk with experts about how to fix it, download information like mad from the internet; but until I roll up my sleeves and start turning the wrenches myself, my car is going to sit in the driveway. The counseling program's academic requirements were stellar in allowing me to read the 'right' books, talk with the experts, and improve my search abilities. I wouldn't trade my classroom experience for anything, but the research team has let me roll up my sleeves and actually work alongside others. Together we're turning wrenches, getting dirty, making mistakes, and learning from them. Though our car may run roughly at times, the ride is silky smooth." (3.3). This visual imagery of hard work and intense enthusiasm is difficult to find in a traditional pedagogical setting. Another team member expressed an increased level of motivation for research by reporting the following, "Seeing other students in the team involved with research activities makes me feel that research is not something far from me. I am motivated to keep up with research activities." (4.4) This

motivation can be tied to attitudinal changes, which may have occurred among the research team members as related by this student, "My attitude has changed in the last year being involved in the research team. I have been motivated to participate in research team because it allows me to participate in developing research without having the total responsibility." (6.4). An awareness of increased enthusiasm for research can be represented by student having an optimism for their own abilities such as in the following, "Although I'm not where I want to be as it relates to being an effective researcher, the DRT experience has provided me with optimism." (2.4). The research participants included in this study expressed an increased recognition, appreciation, excitement for learning and conducting research, and passion for research due to their involvement in research teaming.

#### Increase feelings of self worth and satisfaction

This theme emerged from the personal feelings of research team members related to increase self-worth and overall satisfaction with the research team experience. Team members' comments not only express depth of personal growth but also an increase over time. One such statement follows, "The DRT has allowed me to grow as a person in two dimensions. The first dimension is related to the development of aspects such as friendship, tolerance, attitude toward colleagues from different education backgrounds, sense of humor, self-esteem, self-confidence, and self-discipline. The second dimension is related to the attitudes toward working in a team. Although I am a very shy person, with the dynamic developed with the DRT, I learned how to share and communicate my ideas with others that have the same professional interests as me. Now, I have achieved more self-confidence when I try to communicate with my colleagues. I could say that

now I believe and trust more in myself.” (1.2). Another student expressed his increase in self worth in the following manner, “The team’s support, feedback, and guidance enhance self-confidence and contribute to the demystification of research. These positive beliefs in oneself and the normalization of the process increase [my] self-efficacy.” (3.4). The statement, “I have a clear sense of what I can contribute to the team and what I want to learn from this team.” (4.4) provides insight into a greater sense of personal satisfaction that may come from students participating in a research team experience. This increased satisfaction and sense of self worth appears to be measured over the duration of the research team experience, as expressed by the following, “I feel more comfortable with my personal and professional abilities, when compared with the last semester” (1.4).

#### Heightened awareness or sensitivity to research.

The fourth theme to emerge under personal experience is a heightened awareness or sensitivity to research. As expressed earlier, students felt more comfortable reading journal articles and discussing research with colleagues. The heightened sensitivity is demonstrated by this excerpt related to benefits, “The professional benefits [for me] include the learning of skills related to quantitative and qualitative research, as well as the development of theories, problem statements, literature reviews, writing skills and understanding of the language of basic and applied research”(1.5). Students expressed viewing research differently from before they had been involved in the research team. Comments such as, “I see research as an opportunity to gain existing knowledge as well as develop new knowledge.” (2.4) and “My attitude towards research has dramatically improved. To me, research is no longer the shadowy intimidator done by professors

behind closed doors. It is now a process to be experienced from beginning to end" (3.4). This opening of the door to research may be one of the best indications of why research teaming is important in the lives of graduate students.

A strong sense of connectedness

The fifth and final theme surfacing under the personal experience category is the strong sense of connectedness between students and their mentor. One team member conveyed it in the following manner, "I feel that I have a network of colleague and a mentor who can teach, support, and push me up to grow as an independent researcher... All our members are my teachers" (5.2, 5.4). Students view this connectedness to peers as a personal benefit as reflected in the following quotes, "The personal benefit includes the development of cohesiveness, team working, respect for other colleagues and satisfaction" (1.5), "I have a positive attitude towards research because it is with colleagues, and I enjoy being around [them]" (6.4), and "This supportive network may be the starting point of my professional networking" (5.1). Yet another female team member felt her comfort level was due to the lack of competition among team members. She stated, "My comfort level is negatively correlated to the amount of competition between research team members. The research team members have little competition between each other. It allows me to become relaxed and free from anxiety." (6.4). The personal experience category themes can best be summed up through the analogy provided by one of the team members concerning the combining of the team process and the research process. He paints a descriptive picture for us to share, "Experiencing the two processes concurrently allows the graduate student to take risks

and walk the tightrope of the research process while taking comfort in the safety net of the research team below." (3.4).

### The Graduate Experience

Four themes emerged within the graduate experience category. These themes were 1) combine theory and practice 2) increase in enrichment; 3) more comprehensive than graduate courses; 4) more productive than other students. Each theme is described, with supporting qualitative evidence, in the following paragraphs.

#### Combine theory and practice.

The first theme that emerged under graduate experience was the combination of theory and practice. This thematic concept can best be illustrated using a statement from one the team participants, "The research teaming experience is a kind of synthesis of application and what I have learned in the classroom" (5.3). While this participant defined the research experience as synthesis of application, other team members' comments stated it as a combination of theory and practice. One team member stated, "The research team is an excellent place for us to exercise what we have learned about doing research in the classroom or somewhere else" (5.1). While another team member commented about their opportunity to use theory and practice, "While the classroom experience allows opportunities to gain knowledge (theory, statistics, design, etc ), the research team experience gives the participants the opportunity for practice"(3.3). Another participant discussed the combination of theory and practice, but applied it to concepts in the classroom. "Being involved in this research team has allowed me to take knowledge learned from research and statistical courses and apply them to own field. It has increase my graduate experience by allowing me to apply difficult concepts in the

classroom" (6.3). A third participant described the combination of theory and practice in a metaphor, "The counseling program's academic requirements were stellar in allowing me to read the "right" books, talk with the experts, and improve my search abilities. I wouldn't trade my classroom experience for anything, but the research team has let me roll up my sleeves and actually work alongside others" (3.3).

#### Increase in enrichment.

The research team participants expressed an increase in enrichment of their graduate experience. One of the participants phrased it this way, "Both the classroom learning and research teaming experience contribute to my advanced training. They have broadened my knowledge, stimulate my thinking, and cultivate my skills about doing research in counseling "(4.3). Another participant describes the ways it has enriched his graduate experience. " The ability to participate in the research team experience has impacted my professional and graduate experience in several ways. The value in learning from others, knowledge of the research process as a sum of its parts, understanding of group dynamics, appreciation of others' perspectives, and enhanced self-discipline. This experience has enriched my graduate experience exponentially " (3.1).

#### More comprehensive than graduate course.

Under the third theme of being more comprehensive than graduate experience, one participant stated this comprehension thorough personal feelings about graduate school, " Through my experience with the research team, I found that developmental tasks that I might have to achieve during graduate school period is much more than finishing course works and getting good grades. Graduate experiences should be more

comprehensive which include training myself to become a competent researcher through building up research experiences step by step" (5.1).

More productive than other students.

One research team member stated how the research team has allowed them to become more productive. "Right now I am working on two personal research projects and on two research team projects...I feel that I am working very productively regarding research activities, compared with other average master level students" (5.1). Other team members stated that the research team has made them more productive than other students because it has made them prioritize their lives. Another participant stated, "The ability to prioritize and self-discipline are prerequisites to graduate school success. Participation in the research team forces one to practice these skills on a daily basis" (3.1).

The graduate experience category can be summed up as it benefits the graduate experience. As one team member described it, "I think the benefits of RTE tremendously outweigh those associated with a regular classroom experience" (2.3).

Professional Development

The professional development category was divided into six basic themes. These themes were the following; 1) professional topics; 2) professional competencies; 3) professional growth; and 4) professional goals. Each theme was supported by qualitative evidence.

Professional topics.

The first theme emerging under the professional development category was the discussion of professional topics, issues and dilemmas. This theme can be illustrated

using the statement of various team members. Between these statements we can quote the following: "As a result of participation as a DRT member, I have been able to collaboratively and collectively engage in interesting dialogue with my fellow colleagues regarding research" (2.1). "The members of our team, while ethnically, culturally, and developmentally diverse, share both passion for research and an area of expertise that emerge to create the optimal environment for learning how to create efficient, effective research" (3.1). "As part of the team, I have many opportunities discussing materials and practicing research skills in specific areas" (4.1). "In terms of knowledge in counseling, this research teaming experience helps me familiarize myself with latest findings in some topics, such as counseling graduate students' research self-efficacy and its assessment, by undertaking research and conference projects" (4.1). "The research team offers an excellent opportunity for me to exercise an in-depth exploration about certain topics and research methods in the specific context" (4.1). "By reviewing literature cooperatively with other team members, we share information and help each other better understand theories and empirical findings regarding issues of interest" (4.1). "It is beneficial because it gives me the opportunity to share professional topics with my colleagues from different backgrounds" (1.1).

Professional competencies (knowledge, skills, attitudes, and self-awareness).

The second theme that emerged under the professional development category was professional competencies. This theme includes the development of professional competencies such as knowledge, skills, attitudes, and self-awareness about our professions. Additionally, this theme can be illustrated using the following statements of various team members. "All DRT members bring certain strengths to the team which

allows me to gain broader knowledge that is beneficial to my professional development”

(2.1). “Having the opportunity to present at conferences will continue to contribute to my on-going professional development” (2.1). “Members competent in advanced statistics teach statistically-challenged members the ins and outs of solid design and analysis”

(3.1). “Members possessing advanced communication skills provide leadership in the presentation of oral and written information” (3.1). “Members with enriched technological knowledge excel in the utilization of cutting edge technology in our work”

(3.1). “Participation in the research team experience has also contributed to my professional discipline” (3.1). “The discipline to manage time, resources, and life’s little road bumps is put to the test in the graduate experience” (3.1). “Professional focus, the ability to recognize and sustain the team’s goals, has paralleled the improvement in discipline” (3.1). “One of the main focuses in a counseling doctoral program is to improve students’ research knowledge and skills which can be obtained through attending a well-established research team”(4.1). “The research team is an excellent place for us to exercise what we have learned about doing research in the classroom or somewhere else” (4.1). “Meanwhile, through discussion with team members and the research mentor, I have furthered my understanding about the latest developments in research methodology and publications, such as the importance of reporting effect size in an empirical study” (4.1). “Graduate experiences should be more comprehensive which include training myself to become a competent researcher through building up research experience step by step” (5.1). “My professional knowledge, skills, attitudes, and self-awareness toward the research process have been increased week by week” (1.1). “The

dynamic during each meeting enhanced my critical thinking skills, sense of competitiveness, professional orientation and my self-efficacy research skills (1.1)".

#### Professional growth

The third theme that emerged under the professional development category was professional growth. The professional growth theme can be illustrated using the following statements of various team members. "These various strengths, when combined with feelings of camaraderie and team unity, produce a research environment conducive to significant professional growth" (3.1). "The intimacy involved with working this closely with others has heightened both my personal and professional sensitivity to others' perspectives" (3.1). "The ability to participate in a research team experience has impacted my professional graduate experience in several ways. The value in learning from others, knowledge of the research process as a sum of its parts, understanding of group dynamics, appreciation for others' perspectives, and enhanced self-discipline, are to name a few" (3.1). "Research activities has become an important part of my graduate life. Right now I am working on two personal research projects and two research team projects. This is great growth during a relatively short period of time. I feel that I am working very productively regarding research activities, compared with other average master level students' (5.1). "Sometimes it was amazing to see how efficient and productive our meetings were by sharing responsibilities, cooperating, and making things go on" (5.1).

#### Professional goals

The fourth theme emerged under the professional development was achieving professional goals. This theme can be illustrated using some statements of various team

members. Within this theme we can include the followings statements. "This supporting network in this research team may be the starting point of my professional networking which will last during my professional life"(5.1). "I believe all these learning experiences are building me up to become a useful researcher and a practitioner in the future" (5.1). "The interdisciplinary and intercultural approach used by the research team instills hope in me to achieve my professional goals" (1.1).

#### Gaining knowledge/skills

Three themes appear within the "gaining knowledge/skills" category. They are (1) Learning from others; (2) Improving counseling knowledge and research skills; (3) Receiving practical research experience. Each theme is described with supporting narratives in the following paragraphs.

#### Learning from others.

Collaboration is valued in the research team. Team members expressed that they had improved their development by sharing information, mentoring and learning from others, as well as receiving support from other team members. One of the members reported, "As a result of being a DRT member, I've been able to collaboratively and collectively engage in interesting dialogue with my fellow colleagues regarding research" (2.1). Another member described it this way, "By reviewing literature cooperatively with other team members, we share information and help each other better understand theories and empirical findings regarding issues of interest" (4.1). Members with different strengths could help each other learn by "mentoring others, including both pushing and protecting them" (3.5).

Improving counseling knowledge and research skills.

Other than classroom learning, team members had expressed that they increased their knowledge and skills very much in both fields of counseling and research. In terms of research skills, one member reported, "As a part of the team, I have many opportunities discussing materials and practicing research skills in specific areas" (4.1). Also, many members found out they broadened their knowledge base through this research teaming experience. One member mentioned, "In terms of knowledge in counseling, this research teaming experience helps me familiarize myself with latest findings in some topics" (4.1). Another member indicated, "Through discussions with team members and the research mentor, I have furthered my understanding about research and statistical methods, and updated my knowledge about the latest developments in research methodology and publication" (4.1). Additionally, "I see research as opportunity to gain existing knowledge as well as develop new knowledge" (2.4).

Receiving practical research experiences.

Receiving practical research experiences in another important asset of research team mentioned by many participants. One participant regarded this experience as "an excellent place for us to exercise that we have learned about doing research" (4.1). And another member expressed, "The research team experience gives the participants the opportunity for practice" (3.3). When making a comparison with other research classes, one member stated, "Compared with research classes that often restrict themselves in theoretical introduction and abstract discussions because of limited time for class meetings, the research team deals with more practical issues, such as how to decide the

number of subjects needed when using a specific research method, how to identify the research population, and how to sample the subjects" (4.3). Finally, the other participant thought "offering practical experiences is one of the research team approach's strengths" (4.3).

#### Environment

A major component in the development of a successful research team is the environment. Specifically, six areas of the environment were identified as contributing to the research team experience. The role of the faculty leader and the structure of the group creates an atmosphere that promotes collaboration, diversity, and contribution.

##### The faculty leader's role

The faculty leader's role is best described as "mentor." The small teacher/student ratio allows more in-depth personal relationships to form by allowing "the mentor to devote more time to team members from a support and guidance perspective"(2.3).

##### The structure of the research team

The structure of the research team compliments the mentor role. "Members, including the professor, are in egalitarian relationships. Each of us are required to have ownership and become a self-initiator in order that the team may go to some direction."(4.3) Additionally, "the approach within the DRT is more related to mentoring, comradeship, and team spirit; rather than encourage the teacher-student power relationship"(1.3).

##### Atmosphere

This mentor role and non-hierarchical structure encourages members by creating an atmosphere for learning. "As a result of being a DRT member, I've been able to

collaboratively and collectively engage in interesting dialogue with my colleagues regarding research"(2.1). "The individuals on the research team appreciate and respect each other's ideas and strive first to understand the differing perspectives before providing any feedback"(3.1). This atmosphere allows for risk-taking without fear of repercussions. Consider these examples: "It is easy for a graduate student whose first language is not English to feel frustrated because of language barriers. Due to its relatively informal modality, I am more comfortable to express what I have in mind without worrying about being stupid"(5.2). "Although I am a very shy person, with the dynamic developed within the DRT, I learned how to share and communicate my ideas with others that have the same professional interest as me"(1.2). Finally, "the team's support, feedback, and guidance enhance self-confidence and contribute to the demystification of research"(3.4).

#### Collaboration

From this atmosphere of safety comes a tremendous sense of collaboration. This collaboration exists on different levels. First, it helps relieve some of the workload by distributing responsibilities. "Working together on the same project and sharing responsibilities relieves me of the anxiety of a beginning researcher"(4.4). Second, it allows for the sharing of ideas and information. "By reviewing literature cooperatively with other team members, we share information and help each other better understand theories and empirical findings regarding issues of interest"(5.1). Third, it allows for interpersonal skills and relationships to develop. "The DRT has allowed me to grow as a person, in aspects such as friendship, tolerance, attitude toward colleagues from different educational backgrounds, sense of humor, self-esteem, self-confidence, and self-

discipline”(1.2). Team members may hold individual differences regarding the degrees of cohesiveness and collaboration experienced, but each takes with him/her enhanced knowledge about the team dynamic and the commitment involved.

#### Contribution and diversity.

The members of the research team as individuals are a component not to be ignored. Diversity plays a significant role in the success of the team. “One of the unique characteristics of our team is that the members are very diverse in terms of ethnicity and language, in addition to educational and vocational backgrounds, expertise, and disciplines”(4.2). This diversity is beneficial to a global perspective pertaining to the value of on-going research. Individuals’ perceptions of such diversity should be explored as tools to build unity and increase productivity. “The ethnic diversity on our team is celebrated by the members. We embrace both our uniqueness and our resemblance”(3.5). “The interdisciplinary and intercultural approach used by the research team instills hope in me to achieve my professional goals”(1.1).

A significant mentor, humanistic structure, supportive atmosphere, and collaborative, diverse membership combine to create a team where all members feel free to contribute. The team benefits from individual strengths and areas of expertise brought to the team. “Drawing from team members specific strengths have helped me tremendously as person and a professional”(2.5). One team member communicated the bottom line of the entire research team experience in six words: “...all our members are my teachers”(5.2).

### Opportunities

As a result of this research teaming experience, members say they participated to have various opportunities: practice and application of classroom learning; work with diverse people, conference presentations, publications, and grants.

#### Practice and application of classroom learning

The first theme is practice and application of classroom learning. Most members indicated the research teaming experience provides opportunities to practice and apply classroom learning. "This experience allows me to apply difficult concepts in the classroom" (6.1). "The research teaming experience is a kind of synthesis and application of what I have learned in the classroom" (5.3). They appreciate the opportunities of more practical experiences as well. "Compared with research class, the research team deals with more practical issues, such as how to decide the number of subjects needed when using a specific research method, how to identify the population, and how to sample the subjects" (4.3). "In short, the research team offers an excellent opportunity for me to exercise an in-depth exploration about certain topics and research methods in the specific context" (4.1). "It is pragmatic because during each group discussion we can see the integration between the theory and practice" (1.1). This theme is condensed by a member's quotation from John Dewey, "We learn to do by doing" (1.2).

#### Learning from differences

One of themes that are most often emerged across the responses of every member is the opportunity to work with diverse people in terms of ethnicity, culture, language, interests, developmental level, and educational/vocational backgrounds. All

members appreciate this opportunity to work with and learn from colleagues from diverse backgrounds. "Being a part of DRT has provided me the opportunity to establish and maintain positive relationships with individuals from very diverse ethnic/cultural backgrounds" (2.2). "Our team has allowed a much deeper understanding and a more intense examination of both cultural differences and similarities. We embrace both our uniqueness and our resemblance. This diversity and its accompanying responsibilities, have provided learning opportunities not found anywhere else in higher education" (3.5). Additionally, diverse interests and expertise coming from different educational/vocational backgrounds and developmental levels are also highly appreciated. "The experience as a member of the D.I.V.E.R.S.E. research team is beneficial because it gives me the opportunity to share professional topics with colleagues from different backgrounds" (1.1). "The members of our team share both a passion for research and an area of expertise that merge to create the optimal environment for learning how to create efficient, effective research. These various strengths, when combined with the feelings of camaraderie and team unity, produce a research environment conducive to significant professional growth" (3.1).

#### Presentation, publication, and grants

The third theme is enhanced opportunities for presentation, publication, and receiving grants. A student says that she cannot learn these things very effectively in regular classes. "I cannot learn about opportunities for presentations or receiving grants, or how to conduct research and write a publishable article in regular classes" (5.3). Many members pointed out the increased opportunities of presentation or publication. "Increased opportunities to present at conferences are becoming available as result of my

involvement with DRT" (2.1). "Professional opportunities (ex: publication, presentation) have increased along with the motivation to pursue some" (3.5). These opportunities will heighten professional development in turn. "Having the opportunity to present at conferences will continue to contribute to my on-going professional development" (2.1).

### Costs

There are costs to pay for gaining all of this wonderful knowledge, skills, and experiences. To the extent that members commit themselves to this team, they have invested both time and energy on the tasks of library searching, literature review, and group discussion. Likewise, they have invested both time and energy on the tasks of locating funding to support their research projects and conference presentation. Here is the quote from one team member, "I have to put extra time and energy for the research team activities" (5.5).

### Implications

#### Implications for Students

There are several implications that participating on a research team holds for students. Perhaps the most helpful to students is the formation of collegial research support groups. Students from similar disciplines can benefit greatly by getting together to discuss and critique research they find salient. This group dynamic allows the investigation of multiple articles in less time, for it enables the students to disperse the research among them. As a part of a research support group, though I may only read one article, I can gain the knowledge of many more from my cohorts.

Another implication the research team holds for students is the opportunity to "test drive" the research process before having to take sole accountability for its rigor.

Exploring the various roles played by the researcher gives the student the necessary practice to complete an entire project, such as a thesis or dissertation, from inception to completion. Conceivably this will both lessen the burden of the students' committee/advisor and improve the quality of the product.

Additionally, the students will have an advantage when it comes time for them to job search. The increased professional networking done at presentations affords name and ability recognition not available by vitae alone. The publications and presentations accomplished while still in training make for a more competent competitor for the higher education job market.

#### Implications for Training Program

The development of graduate student research teams carries with it several implications for the training program. These are 1) Combination of theory and practice, 2) Connectiveness with counselor training program, 3) Apprenticeship approach, 4) DRT uses formal and informal innovative strategies to develop researchers, 5) Creates "reflective practitioner" (Schon, 1994).

A training program that develops a research teaming approach provides students the opportunity to take the knowledge and skills obtained in the classroom and put them to use in a practical environment. Experiences like this allow the program to produce not only counselors who are solid academically, but also students who are competent researchers. This dualistic training gives programs the edge in producing the most capable counselors in the field.

Training programs providing this type of experience promote a sense of student ownership in the program and the training process. When allowed to see how the research

works, students value both the process and product. A greater sense of connectedness to the program could imply many things, from greater effort to increased involvement in program outcomes.

— Research teaming can be interpreted as an apprenticeship. Students learning alongside experienced faculty. This type of approach to the research process allows immediate feedback from the faculty to student, both expediting and increasing the learning. The program's adherence to this type of approach produces capable, confident researchers.

The use of both formal and informal training strategies is an integral part of the research teaming process. Programs that provide both types of strategies are creating the best possible learning environment for their future graduates. The spontaneity of learning permitted in this type of approach gives students a feeling of accomplishment not allowed in most formal, evaluative approaches.

The type of practitioner produced by a program of this nature is characterized as one who is not afraid to recognize personal limitations and take steps to remediate them. Coming into a situation as a beginning researcher it is necessary to reflect on the parameters of personal expertise. Acknowledging this, the reflective practitioner can recognize and use those around him/her as resources to broaden knowledge and hone skills.

### Conclusion

The outcomes associated with research team membership are positive. The research team experience can be complimentary to an individual's academic, personal, and professional development. The non-threatening environment is conducive to learning

and growing. Enhanced opportunities highlight the uniqueness of this research team experience. These opportunities include building research skills, learning how to work collaboratively with others, developing close bonds with individuals from diverse backgrounds, and receiving support from an encouraging faculty mentor. Although the benefits for this group far outweigh the costs, there are some limitations to providing a research team experience as it relates to funding projects and travel expenses for presentations. Counselor preparation programs and the institutional systems which house them may need to revisit research funding approaches from a group perspective instead of the traditional individualistic perspective. The qualitative experience of the students involved in this research team hopefully will inspire further research into the collaborative research teaming experience as a viable training option in academe.

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